



Best Available Copy

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/785,999

02/26/2004

Alexei Skarine

13210-20

6731

1059

7590

01/17/2008

BERESKIN AND PARR
40 KING STREET WEST
BOX 401
TORONTO, ON M5H 3Y2
CANADA

EXAMINER

NGUYEN, KEVIN M

ART UNIT

PAPER NUMBER

2629

MAIL DATE

DELIVERY MODE

01/17/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/785,999

Applicant(s)

SKARINE, ALEXEI

Examiner

Nguyen M. Kevin

Art Unit

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 6, 7, 10-15, 18, 19 and 22-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6, 7, 10-15, 18, 19 and 22-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Request for Continued Examination

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/14/2007 has been entered. An action on the RCE follows:

Claims 4, 5, 8, 9, 16, 17, 20 and 21 are cancelled, and claims 1, 10, 13 and 25 are amended. Thus, claims 1-3, 6, 7, 10-15, 18, 19 and 22-26 are pending in this application.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 6, 7, 11, 13-15, 18, 19, 22, 23 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Lennart** (EP 1292086) in view of **Dreher** (US 4,551,717).

As to **claim 1**, the alternative embodiments of figures 2A, 2B, 4A, 4B, 6B and 6C of **Lennart** teach a keyboard (5), said keyboard for use with a device (1) in which a display screen (11) for displaying output to a user is provided, said keyboard comprising:

a) a plurality of keys (5), wherein each key is transparent;

Art Unit: 2629

b) a housing (2) for supporting said keys (5-4, 60-4), wherein said housing (2) is adapted to attach to said device (1) such that said keys overlie at least a part of said display screen (10);

so that in use, when said housing (2) is attached to said device (1), at least one part of one or more images displayed on said at least a part of said display screen (10) is visible to said user through at least one of said plurality of keys (5-4, 60-4);

wherein said device (1) provides a touch-sensitive element (10), wherein, in use, said touch-sensitive element (10) is actuated to send one or more signals to a processor when said touch-sensitive element (10) is touched, and wherein said housing (2) is adapted to attach to said device (1) such that said keys (5-4, 60-4) overlie at least a part of said touch-sensitive element (10);

wherein each key (5) comprises at least first and second surfaces (4) and is moveable within said housing (2), in use, between a first position in which said key (5) does not touch said touch-sensitive element (10), and a second position in which said second surface of said key (5) is displaced to actuate said touch-sensitive element (10), such that when a key (5) of said plurality of keys (5-4, 60-4) is pressed at said first surface thereof by said user, said key (5) is moved from said first position to said second position to actuate said touch-sensitive element (10); and

wherein each of said plurality of keys (5-4, 60-4) is lens-shaped to magnify the at least one part of said images visible to said user therethrough, and wherein said first surface and second surface of each of said plurality of keys (5-4, 60-4) oppose each other and are convex in shape to define the lens shape of said key (5), (a plurality of key 5 is shaped to provide

Art Unit: 2629

magnifying action, the key 5 is used optical modifications, which imply the lens 5 is modified any shapes, see sections 26, 30, 31, and 44).

Lennart fails to teach the housing further comprises at least one actuator disposed therein for each of said plurality of keys, wherein each key is biased in a first position by said respective at least one actuator that support said key, wherein said respective at least one actuator is compressible to allow said key to move to a second position when said key is pressed and to move said key back first position when said key is released.

The alternative embodiment of figure 10, and col. 2, lines 48-65 of Dreher teaches a keyboard comprising a key cap 11 having a lens 12, which is produced an enlarged image by the LCDs underneath, which being supported by a body 10 (corresponding to the housing as claimed) further comprises a shaft 21 associated with a spring 22 (corresponding to at least one actuator as claimed) disposed therein for each of said plurality of keys (11), wherein each key (11) is pushed downward by the arrow down direction of keystroke (is biased in a first position by said respective at least one actuator that support said key), the key is released to move back by the arrow up direction of keystroke (said respective at least one actuator is compressible to allow said key to move to a second position when said key is pressed and to move said key back first position when said key is released).

As to claims 2 and 3, Lennart teaches the keyboard of claim 1, wherein said device is a mobile device, and a handheld electronic device (a cell phone device 1, section 21).

As to claim 6, Lennart teaches the keyboard of claim 1, wherein said housing (2) is also adapted to attach to said device (1) such that at least another part of touch-sensitive element (10) remains accessible for providing user input and unobstructed by said keys (5-4, 60-4) (fig. 2B).

As to claim 7, Lennart teaches the keyboard of claim 1, wherein said housing (2) is also adapted to attach to said device (1) such that at least another part of said display screen (11) remains visible to said user and unobstructed by said keys (5-4, 60-4) (fig. 2B, section 26).

As to claim 11, Lennart teaches the keyboard of claim 1, for the keyboard is removable, in that the housing of the keyboard can be detached from the mobile device (fig. 2B, section 26).

Dreher's benefit is easily modified or programmed to perform a particular function and to display an identification of the key of the keyboard (col. 1, lines 5-9 of Dreher). Thus, it would have been obvious to a person of ordinary skill in the art to apply Dreher to Lennart to achieve the predictable result. Using the known technique of Dreher would have been obvious to one of ordinary skill.

3. As to **claim 13**, the alternative embodiments of figures 2A, 2B, 4A, 4B, 6B and 6C of **Lennart** teach a device (a notebook computer 1) comprising a processor and a memory coupled to said processor, at least one processing module controlled by said processor, a display screen (11) coupled to said processor, and a keyboard (5) adapted for use with said device (1) comprising:

- a) a plurality of keys (5-4, 60-4), wherein each key is transparent; and
- b) a housing (2) for supporting said keys (5-4, 60-4), wherein said housing (2) is adapted to attach to said device (1) such that said keys overlies at least a part of said display screen (11);

wherein said at least one processing module is programmed to display one or more images on said first part of said display screen (11), such that for each key (5), at least one part of said images is visible to said user therethrough when said housing (2) is attached to said mobile

Art Unit: 2629

device (1), and wherein said at least one processing module is programmed to determine the at least one part of said images visible through said key (5) when pressed;

wherein said device (1) further provides a touch-sensitive element (10), wherein, in use, said touch-sensitive element (10) is actuated to send one or more signals to a processor when said touch-sensitive element (10) is touched, and wherein said housing (2) is adapted to attach to said device (1) such that said keys (5-4, 60-4) overlie at least a part of said touch-sensitive element (10);

wherein each key (5) comprises at least first and second surfaces (4) and is moveable within said housing (2), in use, between a first position in which said key (5) does not touch said touch-sensitive element (10), and a second position in which said second surface of said key (5) is displaced to actuate said touch-sensitive element (10), such that when a key (5) of said plurality of keys (5-4 and 60-4) is pressed at said first surface thereof by said user, said key (5) is moved from said first position to said second position to actuate said touch-sensitive element (10); and

wherein each of said plurality of keys (5-4, 60-4) is lens-shaped to magnify the at least one part of said images visible to said user therethrough, and wherein said first surface and second surface of each of said plurality of keys (5-4, 60-4) oppose each other and are convex in shape to define the lens shape of said key (5) (a plurality of key 5 is shaped to provide magnifying action, the key 5 is used optical modifications, which imply the lens 5 is modified any shapes, see sections 26, 30, 31, and 44).

Lennart fails to teach the housing further comprises at least one actuator disposed therein for each of said plurality of keys, wherein each key is biased in a first position by said respective

Art Unit: 2629

at least one actuator that support said key, wherein said respective at least one actuator is compressible to allow said key to move to a second position when said key is pressed and to move said key back first position when said key is released.

The alternative embodiment of figure 10, and col. 2, lines 48-65 of Dreher teaches a keyboard comprising a key cap 11 having a lens 12, which is produced an enlarged image by the LCDs underneath, which being supported by a body 10 (corresponding to the housing as claimed) further comprises a shaft 21 associated with a spring 22 (corresponding to at least one actuator as claimed) disposed therein for each of said plurality of keys (11), wherein each key (11) is pushed downward by the arrow down direction of keystroke (is biased in a first position by said respective at least one actuator that support said key), the key is released to move back by the arrow up direction of keystroke (said respective at least one actuator is compressible to allow said key to move to a second position when said key is pressed and to move said key back first position when said key is released).

Claim 14 shares the same limitations as those of claim 2 and therefore the rationale for rejection will be the same.

Claim 15 shares the same limitations as those of claim 3 and therefore the rationale for rejection will be the same.

Claim 18 shares the same limitations as those of claim 6 and therefore the rationale for rejection will be the same.

Claim 19 shares the same limitations as those of claim 7 and therefore the rationale for rejection will be the same.

As to claim 22, Lennart teaches device of claim 13, wherein said at least one processing module is programmed to reconfigure said keyboard, by changing the one or more images displayed to said user on said first part of display screen (see figures 6A and 6B).

Claim 23 shares the same limitations as those of claim 11 and therefore the rationale for rejection will be the same.

As to claim 26, Lennart teaches the device of claim 13, further comprising a backlight to illuminate said one or more image displayed on said display screen, see section 35.

Dreher's benefit is easily modified or programmed to perform a particular function and to display an identification of the key of the keyboard (col. 1, lines 5-9 of Dreher). Thus, it would have been obvious to a person of ordinary skill in the art to apply Dreher to Lennart to achieve the predictable result. Using the known technique of Dreher would have been obvious to one of ordinary skill.

4. Claims 12 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lennart in view of Dreher, and further in view of Taylor et al (US 7,151,528).

Lennart and Dreher teach all of the claimed limitation of claims 1 and 13, except for the keyboard further comprising means for permitting a proximity sensor of said device to detect whether said housing is detached from said device.

However, Taylor teaches a related mobile phone keypad device which includes a proximity-sensitive touchpad behind keys.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Lennart and Dreher to dispose a proximity sensitive touchpad underneath the mobile phone keypad as taught by Taylor, because this would improve the

touchpad operating through proximity sensing without requiring direct contact with the touchpad in order to activate (col. 2, lines 1-10 of Taylor).

5. Claims 10 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lennart in view of Dreher, and further in view of Brandenburg et al (US 5,499,041).

As to claim 10, Lennart and Dreher teach all of the limitation, except for the keyboard of claim 1, wherein each of said at least actuator that supports each of said plurality of keys is made of rubber.

The alternative embodiment of Brandenburg teaches the keyboard comprising a plurality of keys, wherein each key having an actuator 46 that supports each key cap 10. The actuator 46 further has a rubber 21, col. 3, lines 56-67, and col. 10, lines 27-45.

Claim 25 shares the same limitations as those of claim 10 and therefore the rationale for rejection will be the same.

Brandenburg's benefit provides such an assembly which moves the operating point of the force sensing elements into a continuous, smoother, region of operation, while manufacturing with relatively low dimensional tolerance sensitivity (col. 2, lines 53-63 of Brandenburg). Thus, it would have been obvious to a person of ordinary skill in the art to apply Brandenburg to Lennart and Dreher to achieve the predictable result. Using the known technique of Brandenburg would have been obvious to one of ordinary skill.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nguyen M. Kevin whose telephone number is 571-272-7697.

The examiner can normally be reached on MON-THU from 9:00-5:00.

Art Unit: 2629

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe can be reached on 571-272-7691. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kevin M. Nguyen/

Kevin M. Nguyen

Examiner

Art Unit 2629